RECLAMATION

Managing Water in the West

Draft Environmental Assessment

Friant-Kern/Cross Valley Canals Intertie Construction Project

EA-07-70

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Table of Contents

Section 1 Purpose and Need for Action 1
1.1 Background 1
1.2 Purpose and Need 4
1.3 Related Environmental Documents 5
1.4 Scope 5
1.5 Potential Issues 6
Section 2 Alternatives Including Proposed Action 7
2.1 Alternative A – No Action Alternative 7
2.2 Alternative B ─ Proposed Action 7
Section 3 Affected Environment & Environmental Consequences 11
3.1 Water Resources 11
3.1.1 Affected Environment 11
3.1.2 Environmental Consequences 18
3.2 Land Use 19
3.2.1 Affected Environment 19
3.2.2 Environmental Consequences 20
3.3 Biological Resources 21
3.3.1 Affected Environment 21
3.3.2 Environmental Consequences 23
3.4 Cultural Resources 24
3.4.1 Affected Environment 24
3.4.2 Environmental Consequences 24
3.4 Indian Trust Assets 25
3.4.1 Affected Environment 25
3.4.2 Environmental Consequences 25
3.5 Socioeconomic Resources 26
3.5.1 Affected Environment 26
3.5.2 Environmental Consequences 26
3.6 Environmental Justice 27
3.6.1 Affected Environment 27
3.6.2 Environmental Consequences 27
Section 4 Consultation and Coordination 28
4.1 Fish and Wildlife Coordination Act (16 USC § 651 et seq.) 28
4.2 Endangered Species Act (16 USC §1521 et seq.) 28
4.24.3 National Historic Preservation Act (15 USC § 470 et seq.) 28
4.34.4 Migratory Bird Treaty Act (16 USC §Sec. 703 et seq.) 29
4.44.2 Executive Order 11988 – Floodplain Management and Executive Order 11990- Protection of Wetlands 29
Section 5 List of Preparers and Reviewers 29
Section 6 References 29

List of Acronyms, Abbreviations and Definition of Terms

AEWSD	Arvin Edison Water Storage District
AF, ac or ac-ft acre-feet	(the volume of water one foot deep and an acre in area)
Aqueduct	State owned California Aqueduct
cfs	cubic feet per second
CVC	Cross Valley Canal
CV Contractors	Cross Valley Contractors
CVP	Central Valley Project
CVPIA	Central Valley Project Improvement Act
DEID	Delano Earlimart Irrigation District
Delta	Confluence of the Sacramento and San Joaquin Rivers
DMC	Delta Mendota Canal
DWR	California Department of Water Resources
EA	Environmental Assessment
ESA	Endangered Species Act
Expansion Project	Project to expand the capacity of the Cross Valley Canal
FKC	Friant-Kern Canal
ft	foot or feet
FWA	Friant Water Authority
FWCA	Fish & Wildlife Coordination Act
FWS	Fish and Wildlife Service
Intertie	Constructed interconnection between the Cross Valley Canal and the Friant-Kern Canal
ITA	Indian Trust Assets
KCWA	Kern County Water Agency
KTRGWD	Kern-Tulare and Rag Gulch Water Districts
KWB	Kern Water Bank
MAF	Million Acre-Feet
MC	Madera Canal
Mgd	Million Gallons per Day
NEPA	National Environmental Policy Act
O & M	Operation and maintenance
Reclamation	Bureau of Reclamation
SAR	Salt Absorption Ratio
SHPO	State Historic Preservation Officer
SJV	San Joaquin Valley
SJKF	San Joaquin kit fox
SWID	Shafter Wasco Irrigation District
SWP	State Water Project
TDS	Total Dissolved Solids
US	United States

Section 1 Purpose and Need for Action

1.1 Background

The Kern County Water Agency (KCWA) serves as Kern County's contracting entity for the State Water Project (SWP) and participates in a wide scope of related activities to preserve and enhance Kern County's water supply, including providing water to 13 member units and the provision of a supplemental water supply for portions of the metropolitan Bakersfield area. Kern County has in many respects delegated some of its county water management responsibilities to KCWA. KCWA also has the authority to approve or disapprove Kern County water movement into and out of the California Aqueduct (Aqueduct).

In 2005, KCWA approved a project to expand the Cross Valley Canal (CVC) capability to deliver water to and from the California Aqueduct. The CVC serves as KCWA's primary conduit for water deliveries to and from the Aqueduct. Construction has commenced on the CVC Expansion Project (Expansion Project). CVC conveyance capacity will be expanded from 922 cubic feet per second (cfs) to 1,422 cfs (an increase of about 54 percent), including 500 cfs of capacity in the CVC/Friant Kern Canal (FKC) Intertie (Intertie.) The Intertie is the subject of this Environmental Assessment (EA). Construction completion is scheduled for 2008.

The Expansion Project is to be accomplished through the construction of new facilities and improvements to existing facilities. New facilities include a new turnout from the Aqueduct, six new pumping stations along the CVC, a turnout to recharge facilities along the Kern River fan, a turnout to the Buena Vista Canal, and a pump station from the CVC to the Arvin-Edison Water Storage District (AEWSD) Intake Canal. One potential use of some of the expanded capacity, when this space is not being used for other water conveyance activities, is to move water into or out of the FKC. Owners of capacity in the Expansion Project are AEWSD (100 cfs), Kern Delta Water District (200 cfs) and KCWA (200 cfs). The Federal Cross Valley Contractors (CV Contractors) already have previous capacity entitlements to the existing capacity for moving their CVP supplies from the west side of the valley to the east. Current capacity in the unexpanded CVC is held primarily by the eight CV Contractors, Cawelo Water District, Improvement District No. 4 and Rosedale-Rio Bravo Water Storage District, however unused capacity within the canal is available to others who have the capability of putting it to beneficial use.

The project being evaluated within this EA is an interconnection between the FKC and the CVC as a way to convey current and future opportunities to transfer or exchange water into and out of Kern County and transfers or exchanges within Kern County as well as the direct delivery of CV Contractors' CVP supplies. KCWA has requested that Reclamation issue a permit to Friant

Water Authority (FWA) allowing construction of the Intertie on Federal land and altering Federal facilities.

Potential uses of the Intertie are numerous as it will provide a connection between the two main water conveyance systems on the western and eastern sides of the Southern San Joaquin Valley. For example, entities with access to the Friant-Kern or Madera Canals could exchange with westside users. Similarly, entities who can divert into FKC/Madera Canal or exchange for FKC supplies could exchange with Kern County water districts. Westside entities or even Delta or north of the Delta entities could move water to eastside entities. The Intertie also could facilitate water moved from the Kern River water districts or water banking projects into the FKC. Currently, all potential users of the water to be conveyed through the Intertie project cannot be defined and only general ideas of potential water actions that could utilize the Intertie were considered in the planning and design. However, specific water movement via the Intertie, beyond the historic siphon use and direct delivery of CV Contractors' contractual allocations, is speculative, cannot be analyzed at this time and is not part of this project.

KCWA is striving to have infrastructure in place to facilitate the water supply flexibility needed to respond to changing water supply conditions and allow their customers and member units to meet their water supply needs. With so many changes in the water supply outlook, KCWA anticipates the need for even greater operational flexibility in years to come. Accordingly, KCWA wishes to take advantage of current funding availability in order to construct the proposed Intertie.

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Figure 1
CVP and SWP Systems

1.2 Purpose and Need

The proposed project would involve Reclamation's approval of the construction of a turnout and measuring station in the wall of the FKC, and construction of an eight foot diameter pipeline, that would connect to an existing junction box (currently under construction as part of the Expansion Project.) This Intertie would allow up to 500 cfs to move bi-directionally between the FKC and the CVC.

The purpose of the action is to allow greater opportunities for conveyance of water purchases, transfers and/or exchanges in the project area as the operational and conveyance capacity constraints currently in place would be alleviated. The current method of conveyance for moving water from the CVC into the FKC is seven existing pipe siphon connections, which have a combined capacity of approximately 100 cfs under the best hydraulic conditions. These siphons present mechanical challenges to operate. The capability of moving water from the FKC into the CVC (up to 300 cfs) requires the availability of surplus capacity in and use of AEWSD's Intake Canal and the installation of a temporary diversion structure. The proposed Intertie would have a capacity of 500 cfs (in either direction) greatly increasing the ability and reliability of moving water between the CVC and FKC. Construction of the proposed project would not result in the abandonment or removal of the existing seven connections; rather, the current system, in conjunction with the proposed facilities, would provide greater functional flexibility and greater ease and reliability of operation.

The current seven-siphon pipe configuration allows Cross Valley contract water and delivery of non-CVP water (under a Warren Act Contract - a wheeling contract for use of federally owned facilities) to the Kern-Tulare and Rag Gulch Water Districts (KTRGWD). The proposed project would, in addition to providing a more reliable and maintainable conveyance mechanism for KTRGWD, provide a more reliable and dependable source of water transport to other CV Contractors, to other interests in Kern County and other CVP contractors within the Friant Division.

The proposed project would meet the KCWA's need for flexibility and efficiency in the delivery of water. The additional Intertie capacity is expected to significantly improve the ability of much of Kern County (and potentially elsewhere via exchanges) to access drought water supplies that may be made available from existing groundwater banks or from drought water programs that make water available in the Aqueduct (as was the case in more recent drought supplemental water programs such as the State Drought Water Bank created during the drought of 1987 through 1992). Further, more effective and reliable access to surplus or flood water from the FKC would allow Friant CVP supplies to be directly conveyed to groundwater storage facilities that access water via CVC.

1.3 Related Environmental Documents

The following environmental documents address the impacts of other Federal actions that have been completed prior to this EA, which are referred to within this document and are hereby incorporated by reference:

- *Biological Opinion on U.S. Bureau of Reclamation Long Term Contract Renewal of Friant Division and Cross Valley Unit Contracts*. U.S. Fish and Wildlife Service, Sacramento, California, January 19, 2001.

- *Friant-Kern/Cross Valley Canal Intertie Construction Project Initial Study and Negative Declaration* . Provost & Pritchard Engineering Group, Inc., June, 2007.

- *Article 5 Exchanges between Cross Valley Contractors and Others, 2007*. U.S. Bureau of Reclamation, Sacramento, California, February 16, 2007.

- *Cross Valley Canal Unit Long Term Contract Renewal EA*. U.S. Bureau of Reclamation, Sacramento, California, January 19, 2001.

- *Conveyance of Non-Project water for Kern-Tulare and Rag Gulch Water Districts 2007*. Kern County Water Agency, 2007.

- Cross Valley Canal Expansion Project, Final EIR, Kern County Water Agency, February 2005

1.4 Scope

This EA has been prepared to examine the potential for impacts on environmental resources as a result of construction of an intertie between the FKC and the CVC. Although the Intertie would potentially facilitate the movement of water valley-wide, this analysis focuses on the construction impacts and conveyance of specific known water supplies via the Intertie. KTRGWD's historic movement of water via the siphons, which would most likely now move through the Intertie, has already been analyzed in other previously mentioned environmental documents. This document, however, will address the environmental impacts of utilization of the Intertie for these deliveries versus utilization of the existing siphons and AEWSD's Intake Canal. This document will also address the direct delivery of CV Contractors' water service contract allocations (up to their contract total) via the Intertie. The environmental effects of Delta pumping, Aqueduct conveyance, and in district delivery have already been analyzed in *Cross Valley Canal Unit Long Term Contract Renewal EA*. This EA focuses on the environmental effects of building the Intertie and using it for these specific uses.

For future water movement via the Intertie, separate environmental documentation will be done once the specifics of the action have been determined and Reclamation approvals have been requested. General ideas of potential water actions that may utilize the Intertie were formulated for planning and design purposes, however specific water movement via the Intertie, beyond the historic siphon use and direct delivery of CV Contractors' contractual allocations, is speculative, cannot be analyzed at this time and is not part of this project.

The improvements that comprise what is known as the Expansion Project maintain independent utility and do not rely on the approval of the proposed project to operate and are therefore not part of this project and will not be analyzed within this EA.

1.5 Potential Issues

- Water Resources
- Biological Resources
- Cultural Resources
- Indian Trust Assets
- Socioeconomic Resources
- Environmental Justice

Section 2 Alternatives Including Proposed Action

2.1 Alternative A – No Action Alternative

Reclamation would not issue a permit to FWA allowing construction and operation of a turnout and pipeline. Reclamation's lack of permit issuance would result in no connection of the CVC and FKC canals, and construction of the facility would not take place. The current facility would continue to operate using seven smaller connections to deliver CV Contractor CVP water supplies (and KTRGWD's non-CVP water under a Warren Act contract) into the FKC. The CVC into FKC conveyance would remain limited to the current 100 cfs total capacity. Future contemplation of delivery of any other water supplies from the CVC into the FKC would be limited to surplus capacity of the existing facilities or would require the construction of future facilities. There would be a loss of the ability to take advantage of temporary and immediate water availability or access water from banking facilities during drought conditions. Similarly, the delivery of surplus or floodwaters from the FKC into the CVC would continue to be constrained by surplus capacity of the AEWSD Intake Canal and therefore is unreliable.

2.2 Alternative B — Proposed Action

Reclamation proposes to issue an MP-620 permit to FWA allowing construction and operation of a turnout on federal lands at mile post 151.81 (southeast of the intersection of Coffee and Brimhall Roads in the City of Bakersfield.) (See Appendix A for example permit). The permit would allow the construction of the Intertie between the FKC and the CVC at their closest point (Figure 2). The connection would allow conveyance flexibility and therefore flexibility of use for surface water in the San Joaquin Valley (SJV) by connecting the existing FKC to a recently approved pump station and junction box taking water from the afterbay of CVC Pumping Plant #6 (Figure 3). Roughly 880 feet (ft) of eight ft diameter underground pipeline would be installed parallel to the AEWSD Intake Canal to provide up to 500 cubic feet per second (cfs) of flow between the FKC and the CVC, in either direction. The turnout in the FKC would be roughly 23 ft wide. The footprint of the project on federal land would be 100 ft by 240 ft for a total of 24,000 sq. ft. or 0.55 acres.

The Intertie would have a capacity of nearly 500 cfs (323 million gallons of water per day (mgd) or 105 ac-ft/day), and would take over primary operations from the seven existing smaller diameter pipe connections, which have a combined capacity of 100 cfs (65 mgd or 21 ac-ft/day). Construction of the proposed project would not result in the abandonment or removal of the existing seven connections. Rather, the current system, in conjunction with the proposed facilities, would provide conveyance functional options and operational flexibility.

The Intertie would be constructed by the KCWA. Construction activities, including staging and access, would be contained within a 100-ft buffer of the proposed pipeline and turnout, as represented in Figure 3. The construction footprint includes approximately four (4) acres of land, while the final project would primarily be subsurface with roughly 500 square ft of improvements above grade, primarily located at the turnout.

The construction project itself is proposed expected to occur during the anticipated dewatering of the FKC in December of 2007 and January of 2008 and would consist of:

- The excavation of the pipe trench and the installation of 880 ft of eight-ft diameter pipe, including some excavation and installation of pipe through the embankment (and operations roadway) of the west bank of the FKC. Excavated materials would temporarily be stored on site (parallel to the trench) until backfill. Surplus materials would be taken off site for safe storage, use and/or disposal. Excavation and backfilling operations would be conducted with an excavator, trenching bucket, bulldozer, wheeled loader and appropriate compaction equipment in accordance with the construction specifications. Removal of surplus materials would be with loader and dump trucks.

- The removal of FKC concrete lining, site excavation and construction of a concrete turnout and measuring facility would occur within the prism of the FKC. The panel removal and excavation would primarily be performed with an excavator. Concrete lining panels would be replaced. Concrete construction would be formed and concrete directly delivered via truck or pumped into the forms with a concrete pump.

- Gates, measuring devices and control systems would be installed on the new FKC turnout.

Once construction is completed, title of the turnout reverts to the United States and FWA is authorized to operate and maintain the turnout as part of the operation and maintenance (O&M) of the FKC.

Additionally, Reclamation would approve the use of the Intertie for the conveyance of all CV Contractors' CVP contract allocation into the FKC for direct delivery or intermediate exchange. Reclamation would also approve KTRGWD's Warren Act supplies being conveyed into the FKC via the Intertie. KTRGWDs are the only ones realistically that can take direct delivery of their CVP supplies however the other six CV Contractors can take delivery via some intermediary exchange with a southern Friant Division Contractor once the water has been conveyed into the FKC.

Cross Valley Contractors and their contractual entitlements are as follows:

Contractor	Contract Number	Contract Expiration	Contractual Entitlement (acre-feet)
County of Fresno	14-06-200-8292A-IR10	2/29/08	3,000
Hill's Valley Irrigation District	14-06-200-8292A-IR10	2/29/08	3,346
Kern-Tulare Water District (located in Kern County)	14-06-200-8292A-IR10	2/29/08	40,000
Lower Tule River Irrigation District	14-06-200-8292A-IR10	2/29/08	31,102
Pixley Irrigation District	14-06-200-8292A-IR10	2/29/08	31,102
Rag Gulch Water District (located partially in Kern County)	14-06-200-8292A-IR10	2/29/08	13,300
Tri-Valley Water District	14-06-200-8292A-IR10	2/29/08	1,142
County of Tulare	14-06-200-8292A-IR10	2/29/08	5,308

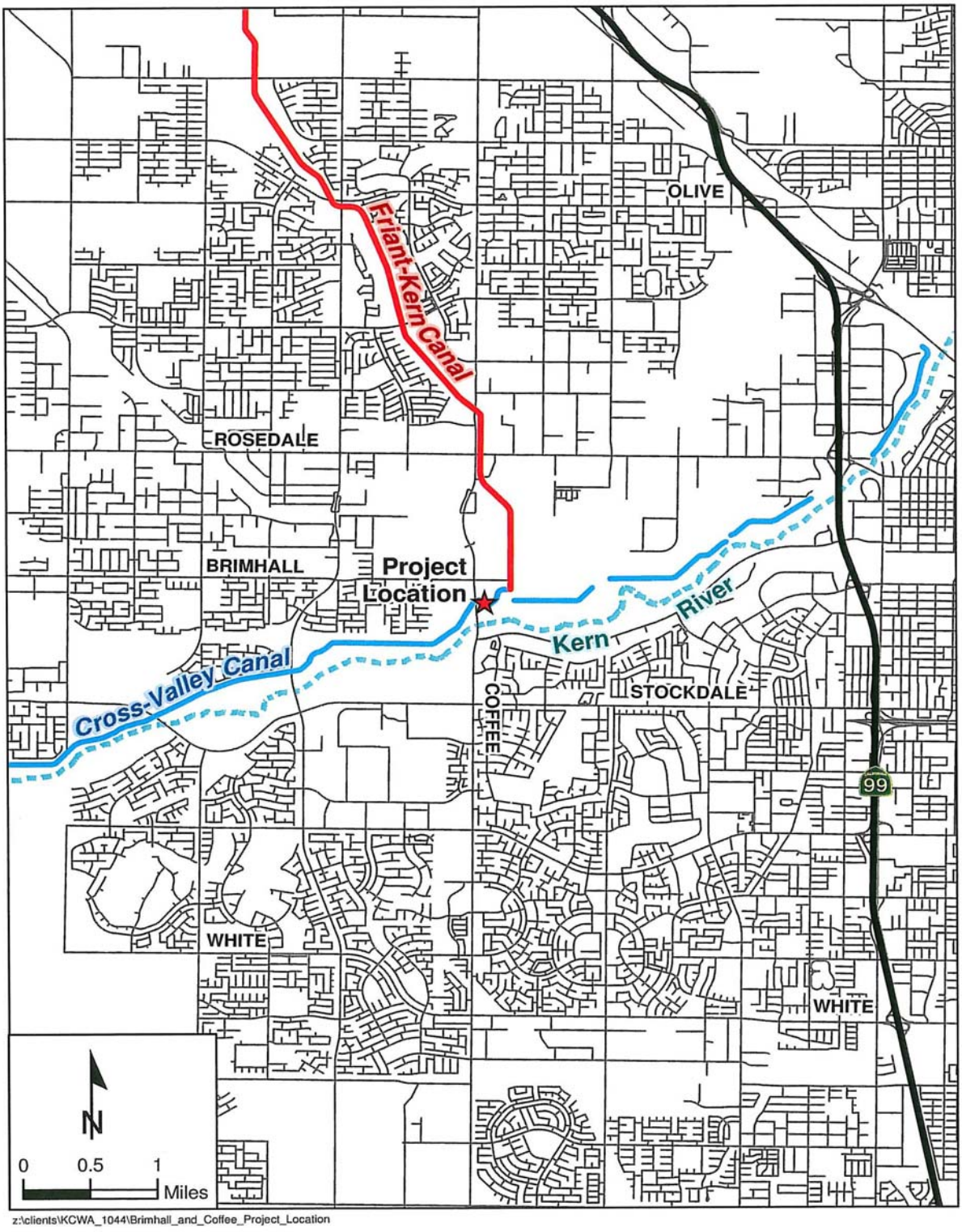

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Figure 2
Location Map

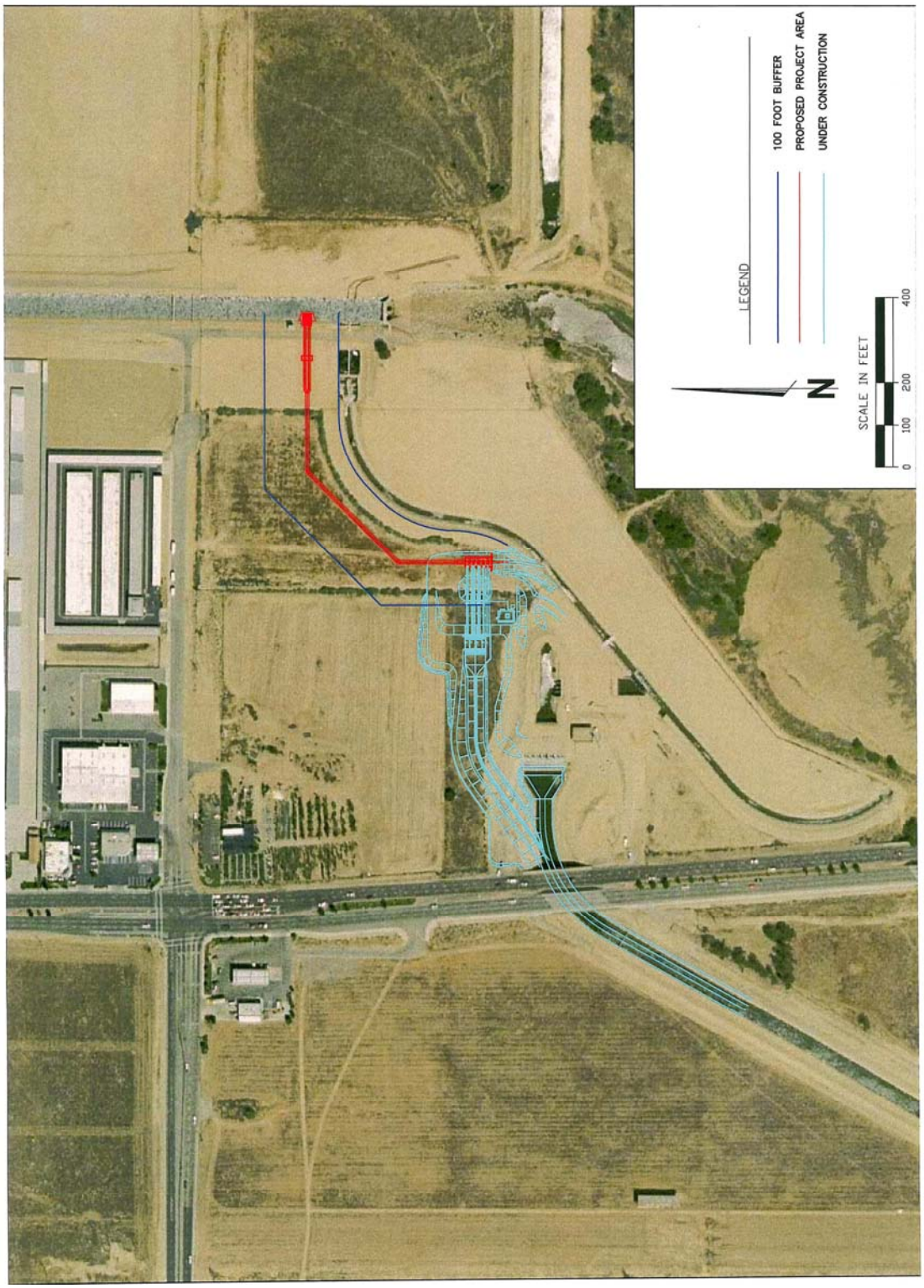

Figure 3
Proposed Project

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Section 3 Affected Environment & Environmental Consequences

The context for this EA is the valley floor of the SJV within Kern County. This section identifies the conditions and environmental trends that currently exist (affected environment) and the areas of concern that may be affected by the Proposed Action (environmental consequences).

3.1 Water Resources

3.1.1 Affected Environment

FWA has an O&M agreement with Reclamation to act as Reclamation's agent in operating and maintaining the FKC. These activities include maintaining and restoring the canal banks along the FKC as well as operating the canal downstream of Friant Dam. The maintenance activities consist of debris or obstruction removal; silt, sand, or sediment removal; maintenance of channel capacity; vegetation control; mechanical vegetation control; aquatic vegetation control; chemical vegetation control; repair of existing erosion control work; and minor erosion control work. Maintenance activities occur on the improved channels, unimproved channels, leveed channels, drain ditches, and toe drains. Under Reclamation policy, an MP-620 permit is not issued to an entity that does not have a contractual relationship with Reclamation. Although KCWA is the project proponent of the Intertie project, the permit would be issued to FWA that, based on their contractual responsibilities, O&Ms the FKC on Reclamation's behalf.

KCWA serves as Kern County's contracting entity for the SWP and participates in a wide scope of related activities to preserve and enhance Kern County's water supply, including the provision of a supplemental water supply for portions of the Metropolitan Bakersfield area. KCWA has long-term SWP contracts with 13 local water districts, called "Member Units", and Improvement District No. 4 for SWP water. Since 1968, the Member Units have received over 30 million acre-feet of SWP water. Kern County has delegated its county water management responsibilities to KCWA. KCWA also has the authority to approve or disapprove Kern County water movement into and out of the Aqueduct.

KCWA Member Units:

- Belridge Water Storage District
- Berrenda Mesa Water District
- Buena Vista Water Storage District
- Cawelo Water District
- Henry Miller Water District
- Kern Delta Water District
- Rosedale-Rio Bravo Water Storage District
- Semitropic Water Storage District\
- Tehachapi-Cummings County Water District
- Tejon-Castaic Water District
- West Kern Water District
- Wheeler Ridge-Maricopa Water Storage District

KCWA is constructing the Expansion Project and ultimately the Intertie to increase water supply reliability, operational flexibility of the CVC and opportunities for the management of available water supplies for all Kern County water districts. Improving water supply reliability, beyond what has already been implemented through water conservation, requires increasing the opportunities to store highly variable water supplies from multiple sources in existing groundwater banking storage facilities on the Kern River Fan and increasing the capability to convey that stored water for agricultural and urban use in the region.

KCWA, other SWP contractors, as well as CVP water contractors, have lost a substantial amount of the SWP and CVP water supplies over the years due to reduced Sacramento and San Joaquin Rivers Delta (Delta) pumping capabilities as a consequence of State and Federal agencies' compliance with environmental regulations as well as the vagaries of hydrologic cycles. KCWA has seen its annual supply of water from the SWP continually decline over the past 15 years. It is now estimated by the Department of Water Resources (DWR) that KCWA can only expect to receive, on average, 70 percent of its annual SWP contractual allotment (SWP 2002). Similar reductions are occurring for south of the Delta CVP contractors such as the CV Contractors, some of whom reside in Kern County. CV Contractors typically receive about 65 percent of their CVP contractual supplies. However there are years when pumping constraints in the Delta and capacity in the Federal and State facilities may preclude water from being delivered at all to the CV Contractors. CVP Friant supplies are also highly variable surface water supplies that are available in high flow, short duration increments. A recent United States (US) District Court decision will reduce Friant water supplies for Kern County even further as Reclamation and DWR work to restore a salmon fishery on the San Joaquin River. Kern County CVP Contractors include AEWSD, Shafter Wasco Irrigation District (SWID), Southern San Joaquin Municipal Water District (SSJMUD), Kern-Tulare Water District and parts of Rag Gulch Water District.

The FKC is a canal facility that conveys water from the San Joaquin River, as controlled by Millerton Reservoir, south along the base of the Sierra Nevada foothills to its terminus in Kern County at the Kern River. The FKC (running north to south) is one of two principal conveyance features of the Friant Division of the CVP. (The other is the Madera Canal which runs north into Madera County.) The FKC terminates into a short outlet channel to the Kern River in the urban Bakersfield area, at a point where the CVC siphons under the FKC outlet channel. Seven relatively low capacity above and below ground steel pipe siphons have been installed to facilitate the conveyance of water from the CVC into the FKC (principally used during drier years). However, the capacity of the existing system is limited and the siphons are difficult to operate.

The CVC was constructed in 1975 to convey both SWP water and CVP water from the Aqueduct on the west side of the southern SJV to the east side of the southern SJV near Bakersfield, California, near the terminus of the FKC (Figure 1). The CVC is operated by the KCWA, and provides service to the federal CV Contractors among others. The CV Contractors consists of a group of eight CVP Contractors who have CVP water service contracts for Delta water but who reside on the east side of the SJV and do not have independent conveyance capability to get the Delta water to their district. These contractors rely on the SWP's Harvey O. Bank Pumping Plant and the Aqueduct for pumping and conveyance of their CVP water supplies. The water is delivered via the Aqueduct to the CVC at turnout 12E near Tupman, California. The CVC conveys the water to an exchanger who would take delivery of the CV Contractor's CVP water and allow the CV Contractor to divert their delivered water more conveniently.

AEWSD has historically been the primary exchanger accepting the CV Contractors' Delta water and allowing AEWSD's Friant Division CVP supplies to go to the CV Contractor. More recently, KCWA has participated as an exchanger. The current CV Contractors' water service contracts allow for other entities to become exchangers. Less commonly, the CVC delivers the CV Contractors' CVP supply directly into the FKC via siphons. Pumping over canal checks is required to provide direct delivery. When water is being pumped northward over checks for direct delivery, no water can be flowing southward in the FKC for delivery to CVP contractors in the affected checks. Therefore there are operational constraints that greatly limit the direct delivery option. To alleviate this operational constraint, once the CV Contractors' water has been siphoned into the FKC, a Friant Division Contractor within the first check or two could exchange their water supply for the siphoned in supplies so that less power and operational disruption occurs. When AEWSD is the exchanger, typically CV Contractor supplies are delivered through AEWSD's CVC turnout (immediately west of the proposed Intertie facilities).

The ability to convey water from the FKC into the CVC currently exists. By backing water from the AEWSD's Intake Canal into the CVC turnout and into the CVC about 300 cfs can be delivered from the FKC to the CVC. This connection is used primarily in wetter years to move surplus CVP supplies or floodwater conveyed in the FKC into Kern County groundwater

recharge projects or even to take flood flows to the Aqueduct. However, the use of this ability is complicated and subject to multiple agency cooperation, including the temporary installation of diversion facilities in the AEWSD's Intake Canal, which limits AEWSD's ability to take water. The Kern River can similarly be used to convey such waters, but the use of the CVC expands the areas where water can be delivered. The construction of a permanent, bi-directional Intertie directly between the CVC and the FKC is a component of the KCWA's Groundwater Storage and Water Conveyance Infrastructure Improvement Program and has been a facility contemplated for construction for many years.

AEWSD's ability to convey FKC supplies into the CVC has typically been utilized during wet years to convey "215 Water" to Kern County interests. The CVC provides conveyance with fewer losses than conveyance via the Kern River. Several Kern County interests, including the Kern Water Bank and the Pioneer Project, can more efficiently serve basins within their service area via the CVC. Deliveries from the Kern River require water to be pumped to these basins at additional expense while deliveries from the CVC can flow via gravity. At times when "215 Water" is available, there is not enough capacity to move water to meet AEWSD's needs and KCWA's ability to accept the flood flows. "215 Water" is a relatively inexpensive water supply, optimal for groundwater recharge and banking. KCWA welcomes the opportunity to receive "215 Water" and KTRGWD, (who have a higher priority to receive the "215 Water"), have an interest in banking this water in their Reclamation approved banking project with Rosedale-Rio Bravo Water Storage District. KTRGWD's banked supplies help to shore up a variable and unreliable water supply to districts that primarily serve permanent crops.

"215 Water" or "Temporary Water" is a supply of water resulting from an unusually large water supply not otherwise storable for CVP purposes, or infrequent and otherwise unmanaged flood flows of short duration. Reclamation contracts for this water separately and it is allocated in wetter years when Millerton Reservoir is projected to have unstorable water supplies that need to be evacuated but there is some planning and delivery time frame.

KTRGWD are two CV Contractors that currently occasionally take direct delivery of their CVP water through the CVC and the existing intertie facilities (siphons). The current system does not allow water conveyance through the CVC of the quantity or on the schedule needed by these districts. They, like other Federal CVC contractors, typically rely on exchanges of their Federal water supplies to facilitate deliveries. These exchanges are provided for under Article 5 of their Federal water service contracts. These exchanges can occur due to flows in the FKC precluding direct delivery (as described below) or to equalize demand and timing discrepancies due to the CV Contractors supplies typically being unschedulable and dependent on pumping capacity as well as water availability.

Taking direct delivery of Delta water supplies is no easy task. After CV Contractors' supplies are delivered to the CVC at Tupman, they are conveyed through the CVC. The water will be

moved into the FKC via the existing siphons or potentially through the Intertie. Conveyance into the FKC for direct delivery only occurs when Friant deliveries to southern Friant Contractors are not occurring. This opportunity may exist more than expected as the two southern most Friant Contractors (AEWSD and SWID) have relatively small Class 1 Friant allocations (40,000 ac-ft and 50,000 ac-ft respectively.)

In a dry year, the allocation of these supplies will be a percentage of the total. For example, in 2007 the Class 1 allocation for the Friant Division is 65 percent. This equates to schedulable deliveries of 26,000 ac-ft for AEWSD and 32,500 ac-ft for SWID; however, considering that the annual water demand for these two districts are approximately 127,400 ac-ft/yr and 99,992 ac-ft/yr respectively, the FKC deliveries can be depleted in a short window of time allowing for direct delivery.

Direct delivery is achieved, once the water is in the FKC, by pumping the water northward over checks in the FKC. AEWSD is the southern most district on the FKC and resides in the last check before the terminus of the canal. CV Contractor water would be pumped over the Shafter check (the first check northward) and in this check the water could be exchanged with SWID if an exchange was contemplated. Typically in a dry year, however, SWID may not have sufficient supplies to exchange due to their relatively low allocation. If direct delivery was still the aim, the water would be pumped over the Poso check and then into the Woollomes check. From this check KTRGWD can take direct delivery into their service area. KTRGWDs are the only CV Contractors for which it is practical to accomplish direct delivery. About half of the SSJMUD service area can be reached in the Poso Check and the other half in the Woolomes Check. Most of Delano Earlimart Irrigation District (DEID) can be reached in the Woolomes Check. From the Poso, Woolomes or White River (the next check northward after the Woolomes Check) checks, the CV Contractors' water could be exchanged with DEID or SSJMUD. These Friant Contractors have relatively large Class 1 allocations (108,800 ac-ft and 97,000 ac-ft) and even in dry years would have exchangeable supplies to allow delivery of Friant water to be delivered to the northern CV Contractors.

"Class 1" water is the contractual entitlement that represents the supply of water stored in or flowing through Millerton Lake which is typically the dependable water supply during each year. Reclamation also allocates a "Class 2" supply in the Friant Division which is much less reliable. Friant Contractors typically have an allocation of both supplies for conjunctive use. The unreliable but sometimes larger entitlement is intended to be percolated into the ground during wet years and utilized during dry years when entitlements are reduced.

The Proposed Action is located in the Tulare Lake Hydrologic Region which is a closed drainage basin at the south end of the San Joaquin Valley, south of the San Joaquin River watershed, encompassing basins draining to Kern Lakebed, Tulare Lakebed, and Buena Vista Lakebed. Uncertainty and limitations of surface water deliveries from the Delta are exacerbating

groundwater overdraft because groundwater is used to replace much of the shortfall in surface water supplies. Past land subsidence from long term groundwater overdraft has caused some damage to canals, utilities, pipelines, and roads. Water transfers within these areas have and will become more common as farmers seek to minimize water supply impacts on their operations.

Several water districts within the Tulare Lake region have developed groundwater storage and recovery programs that benefit water districts outside of the region. Groundwater overdraft has created sufficient dewatered storage space to store water for local uses and for extraction and exchange or delivery to other agencies. Revenues generated by these storage and recovery programs have helped finance additional conveyance infrastructure to move surface water to areas that were previously served with groundwater. This type of conjunctive use activity ultimately helps relieve overdraft, while providing additional water supplies to agencies outside of the region.

Natural recharge in the area is primarily from stream seepage along the eastern Kern subbasin and the Kern River; recharge of applied irrigation water, however, is the largest contributor (DWR 1995). Inflows to the Kern subbasin include natural recharge of 150,000 af per year, artificial recharge of 308,000 af per year, applied water recharge 843,000 af per year, and a 1958-1966 average estimated subsurface inflow of 233,000 af per year (DWR 1995), for a total Kern subbasin inflow of 1,534,000 af per year. Subbasin outflows are urban extraction of 154,000 af per year, agricultural extraction of 1,160,000 af per year, other extractions (oil industry related) of 86,333, and subsurface outflow was considered minimal, for a total Kern subbasin outflow of 1,400,300 af per year.

Groundwater has historically been important for both urban and agricultural uses in the Tulare Lake region. Groundwater pumped from the basin's aquifers accounts for about 33 percent of the region's total annual water supply, and also accounts for 35 percent of all groundwater use in the state. Additionally, the region's groundwater supply represents about 10 percent of the state's overall developed water supply for agricultural and urban uses. (DWR 1995)

The average Kern subbasin water level is essentially unchanged from 1970 to 2000, after experiencing cumulative changes of approximately -15 feet through 1978, a 15-foot increase through 1988, and an 8-foot decrease through 1997. However, net water level changes in different portions of the subbasin were quite variable through the period 1970-2000. These changes ranged from increases of over 30 feet at the southeast valley margin and in the Lost Hills/Buttonwillow areas to decreases of over 25 and 50 feet in the Bakersfield area and McFarland/Shafter areas, respectively. (DWR 1995)

In 1978, DWR was directed by the legislature to develop a definition of critical overdraft and to identify those basins in a critical condition of overdraft (Water Code §12924). Bulletin 118-80,

Ground Water Basins in California was published in 1980. The Kern Groundwater Basin was listed in this bulletin as a critically overdrafted basin. The definition of critical overdraft is:

"A basin is subject to critical conditions of overdraft when continuation of present water management practices would probably result in significant adverse overdraft-related environmental, social, or economic impacts."

Overdraft is the condition of a groundwater basin in which the amount of water withdrawn by pumping over the long term exceeds the amount of water that recharges the basin. Overdraft is characterized by groundwater levels that decline over a period of years and never fully recover, even in wet years. Overdraft can lead to increased extraction costs, land subsidence, water quality degradation, and environmental impacts. (DWR 1995)

Extensive groundwater recharge programs and water banks are operated by water districts and agencies in the area which have stored significant amounts of surplus water underground for future use and exchanges through water banking programs. For more than 100 years, water users throughout the region have used conjunctive use to maximize the water supply and maintain the groundwater basins.

Water banking was initiated in the Kern subbasin in 1978, and as of 2000, seven projects contain over 3 million af (MAF) of banked water in a combined potential storage volume of 3.9 MAF (KCWA 2001). Approximately two thirds of this storage is in the Kern River Fan area west of Bakersfield; the remainder is in the AEWSD in the southeastern subbasin or in the Semitropic WSD in the northwestern subbasin.

On the region's west side, salinity, sulfate, boron, chloride, and selenium limit the uses of groundwater. Salinity is the primary water quality factor affecting use of groundwater for irrigation and native habitat. Where groundwater quality is marginal to unusable for agriculture, farmers use good quality surface water to irrigate crops or blend higher quality surface water with poor quality groundwater to create a larger supply. Salinity can be measured by the Total Dissolved Solids (TDS). The average TDS of groundwater is 400-450 mg/L with a range of 150 – 5,000 mg/L.

Table 3.1. Kern Groundwater Basin Characteristics.

	Kern
Yield Data	
Storage Capacity, af	11,200,000
Perennial Yield, af/y	1,220,000
Annual Extraction, af/y	1,400,000
Annual Overdraft, af/y	180,000
Production Data	
Well Yield, gpm per well	1,200 - 1,500
Production Depths, feet	300 - 600
Pump Lifts, feet	200 - 250
Water Quality	
Total Dissolved Solids, mg/l	400 - 450

Source: DWR Bulletin 118, October 1995 (via DWR website).

Water quality in the FKC canal is pristine as it emanates from snow melt from the granitic Sierra Nevadas. Salinity measured as TDS typically averages about 50 mg/L. No constituents in this water supply limit its use. Conversely, the water in the CVC can be from Delta sources or pumped groundwater. Pumped groundwater as noted above has a TDS of approximately 400 mg/L and Delta supplies also typically have a TDS in this range. By allowing CVC water to be added to the FKC there will be an increase in salinity in the FKC. Both the CVC and the FKC have water quality standard requirements. Both require any party delivering water into either canal to meet Title 22 water quality standards. Typically farmers in the Friant Division need to apply gypsum or some other chemical to raise the Salt Absorption Ratio (SAR) to allow the water to percolate through the charged soil particles.

3.1.2 Environmental Consequences

Alternative A: No Action

Under the No Action Alternative, water movement between these two major conveyance facilities would be limited by existing capacity restraints. The ability to move, water supplies between canals in periods of water abundance and/or in dry periods when water is needed would be constrained by the current conveyance. Conditions would remain as they currently exist and water supplies would continue to be delivered below the current water supplies needed. Groundwater overdraft would continue at historic levels.

Alternative B: Proposed Action

The Proposed Action would interconnect two existing water conveyance facilities. The project would be entirely piped, so water quality in the immediate vicinity of the project would not be affected. The project does not generate a need for water, and does not include as a component

the pumping of additional water or acquisition of water. The finished project would be completely underground, except the turnout structure in the side of the existing FKC, and the surface would be returned to pre-existing grade after construction is complete. Therefore, there would be no change to runoff patterns or quantities. The Proposed Action does not include any deliveries of water that have not previously been environmentally analyzed and approved by Reclamation. Instead, the Proposed Action would allow previously approved water delivery activities to occur without conveyance constraints and on the contractor's demand pattern with less need for consideration of when excess conveyance capacity is available at the key interface of the CVC and FKC. It is likely that the elimination of conveyance constraints provided by the project would allow contemplation of conveyance of water for drought water supply availability and long-term storage, recharge, and recovery of groundwater in larger volumes and in new and beneficial ways; however any water conveyance actions involving CVP water supplies or Federal facilities would require federal approval and additional environmental analysis. Currently there is insufficient specific information to analyze these hypothetical uses and therefore they are not part of the Project Action. The potential salinity increase in the FKC and a larger quantity of this water's potential delivery northward would not affect groundwater quality. The majority of the water would be used for irrigation and the additional salinity when blended with other surface water may provide an adequate SAR value for the farmers where they would not need to apply additional gypsum to facilitate percolation. The potential volume is very small compared to the volumes of water in the basin. Therefore, the Proposed Action would have no effect on water resources.

Cumulative Effects:
The Proposed Action would put in place a structure capable of moving water in a greater variety of combinations. Water users that currently receive water deliveries would be provided a more reliable and consistent supply of water due to the ability to receive water from alternate contracts through exchanges. However, the Proposed Action does not increase the amount of water being diverted from Delta sources, and would not result in cumulative effects relative to increased pumping of groundwater or other diversions. As the Proposed Action has no effect on water resources, there would be no cumulative effects.

3.2 Land Use

3.2.1 Affected Environment

The Proposed Action project area is located in an urban area and is surrounded by existing industrial uses. The site is northwest of the Kern River and immediately adjacent to and northwest of the AEWSD Intake Canal, east of Coffee Road and south of Brimhall Road. The Proposed Action would take place in an area of convergence for a number of canals, and development is limited immediately adjacent to the project. East of the Proposed Action, which is also east of the FKC, is the site of an existing oil refinery, set to begin major improvements and construction in 2007. Approximately one-third of a mile south of the project, across the

Kern River, is a residential subdivision. To the west of the project is Coffee Road, an arterial street, and beyond that is vacant, commercially zoned land. North of the proposed project, the City of Bakersfield owns and leases land to a landscaping company for storage.

3.2.2 Environmental Consequences

Alternative A: No Action Alternative

Under the No Action Alternative, water movement between these two major conveyance facilities would be limited by existing capacity restraints. Under the No Action Alternative, no changes in land uses would occur. To the extent changes in climate or changes in water availability portend greater reductions in water availability there may be a trend toward decreased permanent plantings (tree fruit and nut crops) and increased the planting of annual crops.

Alternative B: Proposed Action

The Proposed Action would interconnect two existing water conveyance facilities. The Proposed Action would not result in a change to the surrounding land uses. The footprint of the construction is located in a heavily industrialized area and the construction would not change the land values and is consistent with the existing land use conditions.

The community does not have access to the proposed project site, and the project would primarily be subsurface. The majority of the four acres that would be the footprint for construction would go back to its original land use and only 0.5 acres of facilities would remain on the surface. The project does not have the capacity to divide an established community.

The water conveyed through the facility has various users, primarily agricultural users. The project does not propose to construct facilities connecting existing facilities to lands currently not receiving water.

Agricultural uses of the lands being served would continue, though with the improved water delivery reliability of the system, agricultural productivity of crops may be enhanced and permanent plantings would be preserved. No land conversion is anticipated since water quantities would not change. The Proposed Action would have no effect on land use.

Cumulative Effects

As the Proposed Action has no effect on land use or land use trends, the Proposed Action would have no cumulative effects on land.

3.3 Biological Resources

The proposed project area is within the highly developed area of the CVC and the FKC. Generally the area is devoid of habitat, with the only vegetation existing being that which has escaped being bladed or sprayed with herbicide. When water is present in the canals, sometimes birds feed or rest on the water. Other wildlife use the canal rights-of-way as movement corridors, such as coyotes, the San Joaquin kit fox (SJKF), cats, dogs, raccoons and others. No natural habitat remains on the canal rights-of-way. Sometimes SJKF or western burrowing owls inhabit California ground squirrel burrows on canal rights-of-way.

3.3.1 Affected Environment

The following list (document number 070829033117) was obtained on August 28, 2007, by accessing the U.S. Fish and Wildlife (FWS) Database: http://www.fws.gov/pacific/sacramento/es/spp_lists/auto_list.cfm. The list is for the Oildale and Gosford Quads. (Table 3.2) The database was last updated August 16, 2007.

Recent development and construction activity in the proposed project area has resulted in a number of biological surveys/studies which have been conducted in the vicinity, either overlapping the proposed project area, or bordering it (Wolfe 2007, URS 2006, Vanherweg 2004 cited in Wolfe 2007, Cypher pers. comm.). Two of these surveys included small mammal trapping by William Vanherweg to detect the Tipton kangaroo rat (Dipodomys nitratoides nitratoides) (URS 2006, Vanherweg 2004 cited in Wolfe 2007). Although Heerman's kangaroo rats (D. heermani) have been found nearby, no Tipton kangaroo rats have been trapped. With regard to the area of the proposed project, these surveys have shown that the area is habitat for the SJKF, a federally listed endangered species, although the most recent survey, which was conducted in April 2007 and focused specifically on this proposed project, found no potential or active dens or other kit fox signs (Wolfe 2007). The vicinity of the proposed project is primarily used for foraging grounds and as a movement corridor for the SJKF.

No proposed or designated critical habitat occurs in the project area.

Other special-status species which could potentially occur in the project area, or are actually known to fly over at times include the bald eagle (federally delisted), the California western mastiff bat (Eumops perotis californicus), Kern shoulderband, western burrowing owl and the cliff swallow. The bald eagle and California mastiff bat are known to occur along the Kern River. The other special-status species have not been detected and for all but the burrowing owl, potential habitat is lacking (Wolfe 2007).

TABLE 3.2: FEDERAL STATUS SPECIES ON OILDALE AND GOSFORD QUAD LISTS

Common Name	Species Name	Fed Status	ESA	Summary basis for ESA determination
Blunt-nosed leopard lizard	Gambelia sila	E	NE	No individuals or habitat in area of effect
California red-legged frog	Rana aurora draytonii	T	NE	No individuals or habitat in area of effect
Delta smelt	Hypomesus transpacificus	T	NE	The proposed project would not cause any diversions in the Sacramento-San Joaquin Delta. The project is restricted to construction at the proposed Intertie site and all diversions of water that may be conveyed through the CVC are subject to separate environmental analysis (Operations and Criteria Plan).
Tipton kangaroo rat	Dipodomys nitratoides nitratoides	E	NE	No individuals or habitat in area of affect
Giant kangaroo rat	Dipodomys nitratoides ingens	E	NE	No individuals or habitat in area of affect. The giant kangaroo rat has never occurred as far east as the project site (i.e. it is outside the known range).
Giant garter snake	Thamnophis gigas	T	NE	No individuals or habitat in area of effect. This species is presumed extinct from Kern County.
San Joaquin kit fox	Vulpes macrotis mutica	E	NE	Implementation of Standard Take Avoidance Measures will avoid impacts (pending the results of a preconstruction survey.

Buena Vista Lake Shrew	Sorex ornatus relictus	E	NE	No documented recent occurrences in the project vicinity; site is also largely devoid of vegetation and the species is usually not found in such bare areas.
Valley elderberry longhorn beetle	Desmocerus californicus dimorphus	T	NE	No elderberry shrubs in area of effect
Vernal pool fairy shrimp	Branchinecta lynchi	T	NE	No vernal pools are located in the project area. No listed fairy shrimp have ever been identified to occur in Kern County.

Key:

- (E) Endangered - Listed (in the Federal Register) as being in danger of extinction.
- (T) Threatened - Listed as likely to become endangered within the foreseeable future.

3.3.2 Environmental Consequences

Alternative A: No Action Alternative

Under the No Action Alternative, construction would not take place and no impacts to the SJKF or any other species would occur, except that if permanent crops were to be replaced by row crops in areas that border occupied kit foxes, kit foxes might lose some marginal foraging habitat. Kit foxes, although they cannot den in orchards, may use them to a greater extent than most other crops (Warrick et al. 2007).

Alternative B: Proposed Action

According to biological surveys completed by M.H. Wolfe and Associates (Wolfe 2007) (Appendix B), although the project site is within the known range of the SJKF, the project area showed no sign of SJKF dens or pupping sites due to longtime disturbance and regular maintenance. However, the report goes on to note that man made materials such as culverts and abandoned pipe are regularly used by SJKF as dens. The project site is currently vacant and cleared of any materials that may be used as dens, but during the construction period, management practices shall be undertaken to avoid temporary impacts to SJKF. The FWS has prepared standardized recommendations for protection of the SJKF prior to or during ground disturbance that will be implemented. No dens were observed on site, and the ground-disturbing impacts of human disturbance from the construction work would be temporary in nature and would not affect the SJKF, even though the timing (winter) is a time of greater activity for male SJKF, when they are typically searching for estrous females. With the implementation of the standard SJKF conservation and take avoidance measures (Appendix C) any impacts would be avoided (pending the results of a preconstruction survey, which must be timed between 30 and

14 days prior to the start of the project). The permanent loss of 500 square feet is not such that it would disrupt SJKF movement (i.e. it does not block off a movement path) and the rest of the area (four acres) would only be temporarily impacted for two months.

The bald eagle sometimes forages along the Kern River during winter months. As this is an occasional occurrence, impacts to the bald eagle from human activity are anticipated to be negligible. The California mastiff bat will be in torpor during the winter, but on nights when the temperature is above 41º F, bats would resume activity to forage. They may encounter the work site, but will not experience more than minimal effects, as construction will be limited to daytime hours.

The conveyance of water in the CVC and FKC is already subject to separate environmental analysis and proposed actions that might result solely because of the proposed Intertie are speculative at this time and would also require separate environmental analysis by Reclamation

Cumulative Effects

The proposed action when added to other existing and proposed actions does not contribute to cumulative impacts to wildlife resources.

3.4 Cultural Resources

3.4.1 Affected Environment

Cultural Resources is a broad term that includes prehistoric, historic, architectural, and traditional cultural properties. The SJV is rich in historical and pre-historic cultural resources. Cultural resources in this area are generally prehistoric in nature and include remnants of native human populations that existed before European settlement. Prior to the 18th Century, many Native American tribes inhabited the Central Valley. It is possible that many cultural resources lie undiscovered across the Valley. The SJV supported extensive populations of Native Americans, principally the Northern Valley Yokuts, in the prehistoric period. Cultural studies in the SJV have been limited. The conversion of land and intensive farming practices over the last century has probably destroyed many Native American cultural sites.

3.4.2 Environmental Consequences

Alternative A: No Action Alternative

Under the No Action Alternative, water movement between these two major conveyance facilities would be limited by existing capacity restraints. Under the No Action Alternative, there are no impacts to cultural resources under the No Action Alternative since there would be no ground disturbance and conditions would remain the same as exiting conditions.

Alternative B: No Action Alternative

The Proposed Action would interconnect two existing water conveyance facilities. Reclamation has conducted a field survey of the proposed construction site and has concluded consultation

with the State Historical Preservation Officer is required for the action due to the ground disturbing activities. Reclamation further concluded that even though there will be construction activities including excavation of a pipe trench, given the highly disturbed nature of the site, no cultural resources are likely to be impacted during construction. Approval of this action will not conclude until the culmination of consultation. (Attachment D)

Cumulative Effects

As Reclamation has not yet determined the effect of the Proposed Action on cultural resources, a determination of the cumulative effects cannot be made at this time. The cumulative effects will be determined once Reclamation has concluded consultation with the SHPO. The proposed action when added to other existing and proposed actions does not contribute to cumulative impacts to cultural resources.

3.4 Indian Trust Assets

3.4.1 Affected Environment

Indian trust assets (ITAs) are legal interests in assets that are held in trust by the U.S. Government for federally recognized Indian tribes or individual Indians. The trust relationship usually stems from a treaty, executive order, or act of Congress. The Secretary of the Interior is the trustee for the US on behalf of federally recognized Indian tribes. "Assets" are anything owned that holds monetary value. "Legal interests" means there is a property interest for which there is a legal remedy, such a compensation or injunction, if there is improper interference. Assets can be real property, physical assets, or intangible property rights, such as a lease, or right to use something. ITAs cannot be sold, leased or otherwise alienated without the US's approval. ITAs may include lands, minerals, and natural resources, as well as hunting, fishing, and water rights. Indian reservations, rancherias, and public domain allotments are examples of lands that are often considered trust assets. In some cases, ITAs may be located off trust land.

Reclamation shares the Indian trust responsibility with all other agencies of the Executive Branch to protect and maintain ITAs reserved by Indian tribes, or individual Indians by treaty, statute, or Executive Order.

Reclamation has conducted a review of potential ITAs in the project area and found that the nearest ITA was 38 miles to the east of the project site.

3.4.2 Environmental Consequences

Alternative A: No Action Alternative

Under the No Action Alternative, water movement between these two major conveyance facilities would be limited by existing capacity restraints. Under the No Action Alternative, there are no impacts to Indian Trust Assets since conditions would remain the same as exiting conditions.

Alternative B: Proposed Action

The Proposed Action would interconnect two existing water conveyance facilities. As there are no ITAs within the vicinity of the project the Proposed Action would have no effect on ITAs.

Cumulative Effects

As the Proposed Action has no effect on ITAs, the Proposed Action when added to other existing and proposed actions does not contribute to cumulative impacts to cultural resources.

3.5 Socioeconomic Resources

3.5.1 Affected Environment

There were 799,407 people and 252,940 households residing in the Kern County as of the 2000 census. Median household income in the County was $ 35,952 (2003). The per capita income was $15,495 (1999). Approximately 20.6 percent (2003) of the population were below the poverty level (US Census Bureau, 2000; Kern County Website.)

3.5.2 Environmental Consequences

Alternative A: No Action Alternative

Under the No Action Alternative, water movement between these two major conveyance facilities would be limited by existing capacity restraints. Under the No Action Alternative, socioeconomic resources may deteriorate as permanent crops are replaced by row crops due to lack of a reliable water supply.

Alternative B: Proposed Action

The Proposed Action would interconnect two existing water conveyance facilities. Intertie conveyed water would be used to support existing water users by providing improved water reliability. With increased reliability, growers would maintain their higher value crops such as orchards or vineyards. Permanent crops improve overall economic conditions by generating a year-round demand for farm labor. By allowing currently planted high value crops to flourish, the Proposed Action maintains the socioeconomics of the project area. The Proposed Action allows the contemplation of conveying greater quantities of drought emergency water supplies that may be made available via the Aqueduct. To the extent these drought water supplies mitigate the economic impacts of a drought, the overall socio-economics of the project area would be improved. The effects of any drought relief conveyance would be analyzed under separate documentation when a specific project is proposed. The Proposed Action would have no effect on socio-economic resources.

Cumulative Effects

As the Proposed Action would have no effect on socio-economic resources, the Proposed Action, when added to other existing and proposed actions, does not contribute to cumulative impacts to socioeconomic resources.

3.6 Environmental Justice

3.6.1 Affected Environment

Executive Order 12898, dated February 11, 1994, requires Federal agencies to ensure that their actions do not disproportionately impact minority and disadvantaged populations. The proposed project would be constructed in an industrial area with no homes in the immediate vicinity; homes beyond the immediate vicinity but within a one mile radius are varied in value and not defined for minority, low-income, or other disadvantaged populations.

3.6.2 Environmental Consequences

Alternative A: No Action Alternative

Under the No Action Alternative, water movement between these two major conveyance facilities would be limited by existing capacity restraints. Under the No Action Alternative, the demand for farm labor may decrease as permanent crops are replaced by row crops due to lack of a reliable water supply. As farm labor is a source of employment for many minority and disadvantaged populations, the No Action Alternative may negatively impact these populations.

Alternative B: Proposed Action

The Proposed Action would interconnect two existing water conveyance facilities. Intertie conveyed water would be used to support existing water users by providing improved water reliability. With increased reliability, growers would maintain their higher value crops such as orchards or vineyards. Permanent crops improve overall economic conditions by generating a year-round demand for farm labor, a source of employment for many minority and disadvantaged populations. By allowing currently planted high value crops to flourish, the Proposed Action would maintain the socioeconomics of the project area and would continue to provide jobs for minority and disadvantaged populations. By continuing to provide employment at historic levels, the Proposed Action would have no effect on minority or disadvantaged populations.

Cumulative Effects

As the Proposed Action has no effect on factors associated with environmental justice, the Proposed Action, when added to other existing and proposed actions, does not contribute to cumulative impacts associated with Environmental Justice.

Section 4 Consultation and Coordination

4.1 Fish and Wildlife Coordination Act (16 USC § 651 et seq.)

The Fish and Wildlife Coordination Act requires that Reclamation consult with fish and wildlife agencies (Federal and State) on all water development projects that could affect biological resources. The amendments enacted in 1946 require consultation with the FWS and State fish and wildlife agencies where the "waters of any stream or other body of water are proposed or authorized, permitted or licensed to be impounded, diverted or otherwise controlled or modified" by any agency under a Federal permit or license. Consultation is to be undertaken for the purpose of "preventing the loss of and damage to wildlife resources." The proposed project would not impound, divert, control or modify a body of water. The water that would pass through has already been diverted from its sources, regardless of whether or not the Intertie exists. Furthermore, the ability currently exists to convey water from the FKC into the CVC.

4.2 Endangered Species Act (16 USC §1521 et seq.)

Section 7 of the Endangered Species Act requires Federal agencies, in consultation with the Secretary of the Interior, to ensure that their actions do not jeopardize the continued existence of endangered or threatened species, or result in the destruction or adverse modification of the critical habitat of these species. Reclamation has requested a concurrence from the FWS that the proposed action will not adversely affect endangered species. The Environmental Assessment will not be finalized until the coordination and consultation with the FWS has been completed.

The proposed project would support existing, primarily existing agricultural, uses. Previously fallow lands would not become productive as a result of the proposed project, and no land conversion would occur as a result of the proposed project. No changes in any existing habitat would occur as the result of this project. Therefore, the proposed action would have no effect on federally listed threatened or endangered species or their designated critical habitats.

4.24.3 National Historic Preservation Act (15 USC § 470 et seq.)

Section 106 of the National Historic Preservation Act requires federal agencies to evaluate the effects of federal undertakings on historical, archaeological and cultural resources. Reclamation concluded that even though there will be construction activities including excavation of a pipe trench, given the highly disturbed nature of the site, no cultural resources are likely to be impacted during construction. Reclamation is consulting with SHPO on this action and will determine the effect on any historical, archaeological or cultural resources after consultation has been completed

4.34.4 Migratory Bird Treaty Act (16 USC §Sec. 703 et seq.)

The Migratory Bird Treaty Act implements various treaties and conventions between the U.S. and Canada, Japan, Mexico and the former Soviet Union for the protection of migratory birds. Unless permitted by regulations, the Act provides that it is unlawful to pursue, hunt, take, capture or kill; attempt to take, capture or kill; possess, offer to or sell, barter, purchase, deliver or cause to be shipped, exported, imported, transported, carried or received any migratory bird, part, nest, egg or product, manufactured or not. Subject to limitations in the Act, the Secretary of the Interior (Secretary) may adopt regulations determining the extent to which, if at all, hunting, taking, capturing, killing, possessing, selling, purchasing, shipping, transporting or exporting of any migratory bird, part, nest or egg will be allowed, having regard for temperature zones, distribution, abundance, economic value, breeding habits and migratory flight patterns.

The Proposed Action would have no effect on birds protected by the Migratory Bird Treaty Act as long as no birds nest within the construction area, and none were found to do so during the biological survey (Wolfe 2007.) No impacts to birds protected by the MBTA are anticipated.

4.44.2 Executive Order 11988 – Floodplain Management and Executive Order 11990- Protection of Wetlands

Executive Order 11988 requires Federal agencies to prepare floodplain assessments for actions located within or affecting flood plains, and similarly, Executive Order 11990 places similar requirements for actions in wetlands. The project would not affect either concern.

Section 5 List of Preparers and Reviewers

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- Patti Clinton, Natural Resource Specialist, SCCAO, Reclamation
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- Richard M. Moss, PE, Provost & Pritchard Engineering Group
- Julie Boyle, AICP, Provost & Pritchard Engineering Group
- Marcia Wolfe, M.H. Wolfe and Associates Environmental Consulting, Inc.

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Appendix A

Reclamation MP-620 Permit Example

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Appendix B

Biological Survey

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Appendix C

SJKF Avoidance Measures

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Appendix D

Cultural Resources Report, Letter to SHPO and response from SHPO

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